see little future in their commonwealth. It may be suggested that in taking this view they are rejecting a method of "functional devolution" likely to be more effective than the Parliamentary dualism which receives their blessing.

The book is interesting, but not light reading. Some of its proposals will no doubt appeal to all readers; all of its proposals to some readers. Universal acceptance *in toto* is, of course, not to be expected. But criticism is easy; construction as difficult as it is urgent. This constitution-making commands the respect of the critic for its concrete and practical character.

BARBARA WOOTTON.

Science for the Young Farmer.

The Chemistry of Crop Production. By Prof. T. B. Wood. Pp. vii + 193. (London: W. B. Clive, 1920.) 5*s.* 6*d.*

PROBABLY no one in the country is better equipped for the task of writing an elementary book for the young farmer than Prof. Wood. He has had a long teaching experience at Cambridge, and has himself run a farm at a profit; in addition, he has carried out important scientific investigations in agriculture, and was responsible during the war for studying fully the national food supply.

With this equipment on the part of the author, it is not surprising that his little book itself is admirable. It is lucidly written, and gives the student the facts he wants, expressed in language which, if lacking the picturesqueness of the author's daily use, is nevertheless much more vivid than is customary in a student's text-book. At the outset the complexity of the problem is realised, and it is emphasised that soil fertility depends not on one, but on many independent factors, any of which may prove insufficient and set a limit to plant growth. These factors are then studied one by one. Considerable information is given about soil types and the method of characterisation by mechanical analysis; examples are drawn from the surveys of Norfolk by Newman, and of Kent, Surrey, and Sussex by Hall and Russell. Several maps show the distribution of crops in the eastern counties, and illustrate the intense localisation of potatoes and the much wider distribution of wheat. Water supply is discussed in relation to rainfall, and a section on weather and meteorology will give the student much information of interest to him.

The principles of manuring are clearly set forth with many examples which will prove of value to the student. Throughout, considerable stress is laid on the economic side, prices and probable returns being freely quoted. In future editions it will be well to substitute a paragraph on the basic open-hearth for the present one on the Bessemer process, which is now largely superseded. The catalytic process for preparing ammonia synthetically will also probably deserve mention along with the method for making calcium nitrate and cyanamide from the air.

The last chapter contains an interesting summary of the leading features of British agriculture, showing how greatly grass predominates. This is shown to be connected with the high rainfall and high altitude of much of the country, though it is also influenced by considerations of capital and labour. Of the other crops, most are grown for animals, 63,000,000 tons (including 50,000,000 of grass) being produced for them, as against 1,900,000 tons for human consumption, and 1,400,000 for industries, all reckoned as dry matter. The 63,000,000 tons become 54,000,000 when deduction is made for the horses, and it is shown that the whole of this 54,000,000 tons, *plus* another 8,000,000 tons of imported produce, is taken by animals which will be eaten by human beings; but it yields only 1½ million tons of human food, again expressed as dry matter. The animal as at present managed is not a very efficient converter.

E. J. R.

A Fabre Anthology.

Insect Adventures. By J. H. Fabre. Pp. xii + 308. (London: Hodder and Stoughton, Ltd., n.d.) 8*s.* 6*d.* net.

IT was a happy thought to adapt for young people, as Miss Louise S. Hasbrouck has done, some of the translations made by Mr. Teixeira de Mattos from Fabre's "Souvenirs Entomologiques." Fabre's studies of animal behaviour appeal to children more organically than any premature analysis, and the great naturalist had a way with him that attracted young folks. Reproaching the anatomical zoologists, he wrote: "You pry into death, I pry into life . . . I write above all for the young. I want to make them love the natural history which you make them hate; and that is why, while keeping strictly to the domain of truth, I avoid your scientific prose, which too often, alas! seems borrowed from some Iroquois idiom." So we have these delightful stories of ants, bees, wasps, flies, beetles, moths, caterpillars, and spiders. There is poetry in the picture of his first pond, with its diamonds and gold dust and "heavenly" beetles, which had all to be cast on the rubbish heap when the boy got

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home. "In later years I found out that the diamonds of the duck-pool were rock-crystal, the gold-dust, mica; but the fascination of the pond held good for all that. It was full of secrets that were worth more to me than diamonds and gold."

The autobiographical chapter, "The Boy who Loved Insects," is charming, and we are glad to see the inclusion for young geometricians of the discussion on the logarithmic spiral which Fabre appended to the story of the spider's web. We wish, however, that it had been possible to omit Fabre's unfortunate but characteristic taunting of the evolutionists. He asks where the snail with its spiral shell of lime and the spider with its spiral thread of silk "pick up this science." "We are told that the Mollusc is descended from the Worm. One day the Worm, rendered frisky by the sun, brandished its tail and twisted it into a corkscrew for sheer glee. There and then the plan of the future spiral shell was discovered. This is what is taught quite seriously, in these days, as the very last word in science. The Spider will have none of this theory, for she is not related to the Worm. Yet she is familiar with the logarithmic spiral and uses it in her web. . . . What guides her? Nothing but an inborn skill, whose effects the animal is no more able to control than the flower is able to control the arrangement of its petals and stamens. The spider practises higher geometry without knowing or caring. The thing works of itself, and takes its way from an instinct imposed upon Creation at the start." Now the great observer was within his rights in suggesting that instinct is unanalysable animal-genius, or any other theory of that elusive kind of behaviour, and he was within his rights in stating that in his opinion the widespread occurrence of the logarithmic spiral in Nature pointed to a "Universal Geometrician, whose divine compass has measured all things," but he was not within his rights in travestying the evolution theory.

This is a delightful book, and very pleasantly printed. Only a few blemishes have caught our eye, like Moquin-Tando*m*; and was not the adjective that Darwin applied to Fabre "inimitable"?

Our Bookshelf.

A Physician's Anthology of English and American Poetry. Selected and arranged by Dr. C. A. Wood and Dr. F. H. Garrison. Pp. xxiii + 346. (London: Humphrey Milford, 1920.) 8*s.* 6*d.* net.

We have got rid of the old convention that all flowers at a funeral must be white: we send them now in all the colours of the rainbow. So is this wreath, laid on Osler's grave by two men who loved him. They have done well. It is a delightful book: sincere, quiet, companionable, thoughtful, as good a friend as anyone could wish to have in his pocket. Note the place of the apostrophe: it is a book for a doctor, not only a book by two doctors. Here and there, of course, it challenges a reviewer, but that is the way of all anthologies. For instance, there is more of Clough than of Christina Rossetti: and the last poem of all, from Weir Mitchell, is inferior to a similar poem by Stevenson. There is rather too much of Lecky, and even of Matthew Arnold: and Siegfried Sassoon's poems of the War have that imperfection which is criticised in Mrs. de Selincourt's perfect story of "Autumn Crocuses." But these are mere little hole-pickings in a very beautiful and well-wrought fabric.

The preface is admirable: and all that the anthologists say of the influence of the doctor's experiences on the doctor's thoughts is true. But they do not make enough allowance, it may be, for the touch of antagonism between practice and poetry. It may come natural to a doctor to say with Weir of Hermiston, "I ha' no call to be bonny"—in part because he is a man of science, and there is a world of difference between science and poetry; in part because his day's work is essentially objective. He exalts it with his kindly feelings, but it remains an affair of signs and symptoms which do not lend themselves to poetical treatment; rather they cry aloud for medical or surgical treatment.

One more point: there have been, and are, men who are both doctors and poets; but we must not include in that list men who gave up practice for poetry: who "qualified," but did nothing much as practitioners, and later were poets. The medical profession cannot lay claim to Keats or Schiller. But this point lies outside the treasures of "A Physician's Anthology," and we congratulate the good physicians who made so good a selection.

Elements of Statistics. By Prof. Arthur L. Bowley. Fourth edition. Pp. xi + 459. (London: P. S. King and Son, Ltd.; New York: Charles Scribner's Sons, 1920.) 24*s.* net.

Although Prof. Bowley's "Elements of Statistics" no longer holds the practically unique position as a text-book which it held on its first appearance twenty years ago, yet teachers and students alike will welcome this new and enlarged edition of a work the value of which has been proved by experience in the interval. The second part of the book, which deals with the higher mathematical treatment of statistical methods, has been entirely rewritten, and the author admits his indebtedness to the work on those lines done in recent years by Prof. Edgeworth, Mr. Udny Yule, and others. Prof. Bowley, however, while going beyond the limits set in earlier editions, by assuming now in the reader a knowledge of the

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